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| 10/039,821 | 01/04/2002 | Daniel P. Sutula JR. | | 9519 |

7590 02/12/2007
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| EXAMINER |
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KASENGE, CHARLES R

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| ART UNIT | PAPER NUMBER |
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2125

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02/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

**Supplemental
Notice of Allowability**

Application No.

10/039,821

Examiner

Charles R. Kasenge

Applicant(s)

SUTULA, DANIEL P.

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communication filed 10/16/06.
2. ☒ The allowed claim(s) is/are 1-18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Daniel P. Sutula Jr. on 11/16/06.

2. The application has been amended as follows:

- a. Claim 1:

A method enabling the precise creation, fitting, and reproduction of objects, comprising the steps of:

- 1) defining a single 2-dimensional profile representation of an object;
- 2) measuring values from the object and defining a sufficient number of parametric values, comprising angular dimensions and/or linear dimensions and/or point coordinates, wherein the sufficient number of parametric values are derived from the measured values and characterize how the object changes in cross-section in 3-dimensional space with respect to the 2-dimensional profile of step 1;
- 3) converting the profile and parametric values into an electronic format suitable for input to computer aided design and manufacturing (CAD/CAM) programs;
- 4) creating a virtual CAD model from the profile and parametric values;

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- 5) calculating Numerical Control (NC) motion commands from the CAD model using CAM technology;
- 6) processing an object using Computer Numerical Controlled (CNC) machine; and,
- 7) transmitting data throughout the process, enabling these steps to be conducted at any combination of geographic locations.

b. Claim 7:

The method of claim 1, wherein step 2 is facilitated by means of printed measuring utensils that may be used to provide accurate measurement of parametric values in the absence of conventional measuring equipment.

c. Claim 8:

The method of claim 1, wherein step 1 and step 2 are facilitated by means of an integrated instruction and data acquisition form on which the profile and parametric values are defined and recorded.

d. Claim 9:

The method of claim 1, wherein step 3 comprises converting the profile and parametric values by means of optical scanning technology.

e. Claim 10:

The method of claim 1, wherein step 6 comprises processing by cutting, grinding, and/or sanding by means of a CNC controlled machine with a rotating tool.

f. Claim 11:

The method of claim 1, wherein step 6 comprises processing by cutting or otherwise removing material by means of a CNC controlled machine with a water and/or abrasive media cutting jet.

g. Claim 12:

The method of claim 1, wherein step 6 comprises processing by cutting by means of a CNC controlled machine with a cutting wire.

h. Claim 13:

The method of claim 1, wherein step 6 comprises processing by cutting by means of a CNC controlled machine with a cutting laser.

i. Claim 14:

The method of claim 1, wherein step 6 comprises processing by means of an additive material deposition process enabled by a CNC controlled Rapid Prototyping machine capable of directly producing a part.

j. Claim 18:

An apparatus enabling the precise creation, fitting, and reproduction of objects, comprising:

- 1) a means of defining a 2-dimensional profile representation of an object's edges;
- 2) a means of measuring values from the object and defining a sufficient number of parametric values, comprising angular dimensions and/or linear dimensions and/or point coordinates, wherein the sufficient number of parametric values are derived from the measured values and characterize how the object changes in cross-section in 3-dimensional space with respect to the 2-dimensional profile of step 1;
- 3) a means of converting the profile and parametric values into an electronic format suitable for input to computer aided design and manufacturing (CAD/CAM) programs;
- 4) a means of creating a virtual CAD model from the profile and parametric values;
- 5) a means of calculating Numerical Control (NC) motion commands from the CAD model using CAM technology;
- 6) a means of processing an object using Computer Numerical Controlled (CNC) machine; and,
- 7) a means of transmitting data throughout the process, enabling theses steps to be conducted at any combination of geographic locations.

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3. The following is an examiner's statement of reasons for allowance: The prior art of record does not disclose measuring values from the object and defining a sufficient number of parametric values, comprising angular dimensions and/or linear dimensions and/or point coordinates, wherein the sufficient number of parametric values are derived from the measured values and characterize how the object changes in cross-section in 3-dimensional space with respect to the 2-dimensional profile of step 1. The allowability, at least in part, resides in this fact.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R. Kasenge whose telephone number is 571 272-3743. The examiner can normally be reached on Monday through Friday, 8:30 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CK
February 5, 2007


ALBERT W. PALADINI
PRIMARY EXAMINER